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Heinrich's idea of abstract labour.

Paul Cockshott

I have been reading Heinrich's 'An Introduction to the Three Volumes of Karl Marx's Capital'. I decided to read it after I was told that this was probably the most influential work published by what are termed the 'value form' theorists. Up until this point I had known of Heinrich only by his participation on the OPE-L mailing list, a list for people interested in Marxian political economy. There have over the years been a number of debates on that list about value form theory, though Heinrich himself was not one of the main contributors.

During an interview last week I was asked the question:

Currently Heinrich and other value theorists are enjoying a certain popularity in socialist circles. What do you think of value theory as put forward by Heinrich?

My answer¹ was criticised as being a rather brief and off the cuff response to a significant and influential writer like Heinrich, so I promised to write a more considered response.

On getting Heinrich's book I was immediately struck by how clear and well written it was, and it could be very useful to people who come to read Capital for

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"I am more familiar with the English and American value form theorists than Heinrich but I feel that value form theory concedes rather much to contemporary economics and attributes more power to the market in creating value than is realistic. My unhappiness with their approach is that they overload the meaning of socially necessary labour in such a way that, were their meaning to be used, they would make the labour theory of value unscientific.

From discussions with them, it seems to me that they hold that it is the sale of commodities at a given price that establishes the social necessity of the labour embodied in them. But if that is the case then there is no independent way of checking whether the price of commodities is determined by their labour content. They end up with a theory in which it is prices that determine what they count as labour content, and you end up with a price theory of labour rather than a labour theory of value. For a scientific theory of causality to be of any use, if we say A causes B, then A and B must be independently measurable. If you can only measure A by measuring B, then the inference that A even exists becomes unnecessary, which of course was Samuelson's objection to the labour theory of value.

The econophysics approach is that both A (labour content) and B (money flow from sales of output) are in fact empirically measurable, and that we can show that variations in B are caused by variations in A."

See <http://spiritofcontradiction.eu/rowan-duffy/2013/02/06/interview-paul-cockshott-on-econophysics-and-socialism>

the first time. But at the same time, the reader has to be aware that Heinrich is presenting a special and somewhat controversial interpretation of Marx. I soon saw that many of the issues that have been discussed at length by Marx scholars on the OPE-L list are addressed here, and that in addressing these Heinrich very definitely situates himself within one particular school of interpretation of Marx. One might pass over this, after all, why bother neophytes with the arcana of scholars, were it not for the fact that Heinrich himself emphasises this particular interpretation of Marx as being a matter of great import.

In a nutshell my objection to Heinrich's interpretation is that if we follow it, we end up with something which is no longer a scientific theory of capitalism, whereas a slightly different interpretation gives a strong and testable scientific theory.

Heinrich claims that from the late 19th century until the 1960s understanding of Marx was dominated by what he terms a 'world view' interpretation which he sees as having been an essentially apologetic adaptation to the needs of political parties. In the 60s

Now a far-reaching discussion of Marx's critique of political economy emerged. The writings of Louis Althusser and his associates were very influential in this regard (Althusser 1965, Althusser/Balibar 1965)².

I concur with Heinrich in his assessment of much of the study of Capital during the first half of the 20th century, and with his point about the importance of Althusser in starting a more detailed and critical engagement with Capital. However there is a big difference between the approach of Althusser and that of Heinrich. Althusser both in Reading Capital[2] and in his more recent writings[1] was concerned to perform a critical analysis that distinguished between Marx's scientific discoveries and the relicts of idealist philosophical language within which these were at times expressed. Althusser was willing to interrogate the silences and ambiguities that occur in parts of Marx's writing, ambiguities and silences that, he claims, originate in the very real difficulty that Marx experienced in breaking with pre-existing theoretical systems: classical political economy, Hegelian and Feuerbachian philosophy. This means that within Capital there are different conceptual systems that do not entirely mesh. There are, Althusser says, concepts expressed that remain idealist and teleological.

1 Teleology

Heinrich is less critically incisive than Althusser and when he is faced with texts in Capital, that modern science tells us are teleological nonsense, Heinrich tends to accept them at face value. This is particularly clear when we look what Heinrich says about the role of history in the order of exposition of Capital.

² Heinrich, Michael; Locascio, Alex (2012-06-01). An Introduction to the Three Volumes of Karl Marx's Capital (Kindle Locations 367-368). NYU Press. Kindle Edition.

The notion that one must know history in order to understand the present has a certain justification when applied to the history of events, but not for the structural history of a society. Rather, the opposite is the case: to examine the constitution of a particular social and economic structure, one has to be already familiar with the completed structure. Only then will one know what to look for in history. Marx formulated this idea with the help of a metaphor:

“The anatomy of man is a key to the anatomy of the ape. On the other hand, indications of higher forms in the lower species of animals can only be understood when the higher forms themselves are already known.” (MECW, 28:42)

For this reason, the “historical” passages in *Capital* come after the (theoretical) depictions of the corresponding categories and not before...³

It staggers me that anyone writing recently so long after Darwin’s great work on human origins[5] could quote that passage from Marx in such an uncritical way. What on earth does it mean to say that you can only understand ‘lower’ forms of animal if you already understand ‘higher’ forms?

Biologists now don’t accept the idea of higher and lower forms, the whole notion is part of a mix of anthropocentric and racist 19th century ideas according to which there is a great chain of being[6] going from protozoans at the lowest link to white men at the highest link. It is inherently teleological since it only makes sense if you think that the world is imbued with some divine purpose whose end is to produce humanity. That Marx, who admired Darwin should have written such teleological nonsense is, I was going to say inexcusable, but it would be better to say it is a testament to the enduring strength of an idealist ideological upbringing. It completely reverses the real causal relation in evolution. Evolution works by the inheritance and modification of acquired characteristics. That humans give birth to live young rather than lay eggs has to be understood in terms of the split between our ancestors (*Theria*) and the ancestors of the Platypus (*Prototheria*)[7, Chapter 18.]. The key to our bearing live young, is this retained character. The primal therian did not acquire this trait in order to ultimately give rise to humans but because of unknown selective pressures in the distant past.

If Marx’s aphorism is evolutionary nonsense what is the justification for Heinrich taking it as a good guide to understand history?

He is concerned that we shall ‘know what to look for in history’, but this is to write history in what Althusser called the future anterior tense: to read back onto the past a purpose, the creation of the world as we know it today. In *Capital*, Marx describes primitive accumulation, which is what he calls the

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Heinrich, Michael; Locascio, Alex (2012-06-01). An Introduction to the Three Volumes of Karl Marx’s *Capital* (Kindle Locations 416-423). NYU Press. Kindle Edition.

historical process by which the peasantry in Britain were deprived of their lands and turned into proletarians. Marx was concerned to explain how one of the key elements of the capitalist economy came into being. Within the new economic system, wage labour provided the basis for capitalist profit. But the objective of the Tudor landowners who launched the enclosures was not to create an industrial proletariat, it was to get land to graze their sheep. It is only the accident of history that threw together a proletariat and a class with money, and the absence of slavery in England that made this a precondition for capitalism. Proletariats have been formed before, and moneyed classes have existed simultaneously before[8]. We have to recognise that the combination of elements that later became parts of the capitalist system have a history of their own, it is as mistaken to take the modern working class as the 'key' to understanding the displaced peasants of the 16th century as it is to interpret the hand of the chimp in terms of it being a precursor of our tool making hand. The ape's hand arose as an adaptation for swinging through trees, the displaced peasants of the Tudor era were there as result of the struggle between them and the landowning class.

2 Proof

Heinrich quotes with approval Marx's letter to Kugelmann to the effect that it is not necessary to give a proof of the labour theory of value. Given the historical context, which Heinrich points out, one in which the labour theory of value was generally accepted by political economists, Marx's assumption was probably justified back then. But for Heinrich's present readers the situation is very different.

After Marx published *Capital*, the labour theory of value became a political hot potato, something that the working class movement was using to justify its demands for a socialist economy. In the years that followed there was a radical rewriting of economic theory which effectively eliminated the labour theory of value from most economic text books. Among orthodox economists, the labour theory of value is now regarded as something totally archaic and discredited, so a contemporary reader of *Capital* can not rely on a general and tacit acceptance that values were regulated by labour time. The question: 'how do we know that labour is really the source of value' is now much more relevant. In the light of modern skepticism, how adequate is the argument advanced in the letter to Kugelmann?

The chatter about the need to prove the concept of value arises only from complete ignorance both of the subject under discussion and of the method of science. Every child knows that any nation that stopped working, not for a year, but let us say, just for a few weeks, would perish. And every child knows, too, that the amounts of products corresponding to the differing amounts of needs demand differing and quantitatively determined amounts of society's aggregate labour. It is self-evident that this necessity of the distribution

of social labour in specific proportions is certainly not abolished by the specific form of social production; it can only change its form of manifestation. Natural laws cannot be abolished at all. The only thing that can change, under historically differing conditions, is the form in which those laws assert themselves. And the form in which this proportional distribution of labour asserts itself in a state of society in which the interconnection of social labour expresses itself as the private exchange of the individual products of labour, is precisely the exchange value of these products. (MECW, 43:68)

Now this little passage is very interesting, and later on I will argue that it casts doubt on Heinrich's own theory of value, but for now I am going to concentrate on whether this is really an adequate defense of the labour theory of value.

How do we know that it is labour that regulates exchange value rather than something else?

Heinrich reproduces Adam Smith's argument that usefulness can not be the basis of value, but usefulness is not the only candidate. How can we tell that it is not some other input to the production process that is key?

If we restrict ourselves, as Heinrich does, to considering prices in a capitalist economy there are other possible value substances.

The establishment of capitalist industry went hand in hand with the development of artificial sources of power: coal then oil. We also all know that in today's world the owners of oilfields are fabulously wealthy, so might energy not be the source of value?

This is not an arbitrary selection on my part. The Technocracy Movement advocated what was essentially an energy theory of value.

One could go through the passage from Marx above and wherever there is a reference to labour substitute energy or power and the essence of the argument would be unchanged. Any society deprived of energy sources would certainly perish. The available energy supply must be distributed between different potential uses whatever the social organisation. The dependence of humanity on energy is a natural law that can not be altered, etc.

But if that is the case how can we be sure that Marx is right and the technocracy theorists are wrong?

If one adopts the normal method of science, the answer is simple. You see what price structure would be predicted by the labour theory of value, what price structure would be predicted by the energy theory of value, and see which theory gives the better predictions. Such tests have been done[4], and they show that actual prices correspond much more closely to what the labour theory of value predicts than to what the energy theory predicts. But as we will see in the next section Heinrich's approach prohibits this sort of scientific test.

3 What is abstract labour

It is common ground to all Marxist economists that Marx held abstract socially necessary labour to be the source of value. But what is abstract labour?

Is it the simple expenditure of human physiological energy?

Marx uses this formulation when trying to explain abstract labour:

Tailoring and weaving, though qualitatively different productive activities, are each a productive expenditure of human brains, nerves, and muscles, and in this sense are human labour. They are but two different modes of expending human labour-power. Of course, this labour-power, which remains the same under all its modifications, must have attained a certain pitch of development before it can be expended in a multiplicity of modes. But the value of a commodity represents human labour in the abstract, the expenditure of human labour in general. (Capital Vol 1, page 12 of the Marxist Internet Archive pdf file)

On the one hand all labour is, speaking physiologically, an expenditure of human labour-power, and in its character of identical abstract human labour, it creates and forms the value of commodities. On the other hand, all labour is the expenditure of human labour-power in a special form and with a definite aim, and in this, its character of concrete useful labour, it produces use-values. (Capital Vol 1, page 12 of the Marxist Internet Archive pdf file)

Heinrich rejects this formulation because :

The reduction of various types of labor to labor in a physiological sense, however, is a purely mental abstraction, to which any kind of labor can be subjected, regardless of whether it produces a commodity. Furthermore, this formulation suggests that abstract labor has a completely non-social, natural foundation, and has therefore accordingly provoked “naturalistic” interpretations of abstract labor⁴.

Well that is begging the question. It is only an objection if you assume from the start that abstract labour does not exist except in capitalist society.

But Marx has another explanation for what abstract labour is, based on the division of labour.

So far as they are values, the coat and the linen are things of a like substance, objective expressions of essentially identical labour. But tailoring and weaving are, qualitatively, different kinds of labour. There are, however, states of society in which one and the same man does tailoring and weaving alternately, in which case these two forms of labour are mere modifications of the labour of the same individual, and no special and fixed functions of different persons, just as the coat which our tailor makes one day, and the trousers which he makes another day, imply only a variation in the labour of one and the same individual. Moreover, we see at a glance that, in our capitalist

⁴ Heinrich, Michael; Locascio, Alex (2012-06-01). An Introduction to the Three Volumes of Karl Marx's Capital (Kindle Locations 742-745). NYU Press. Kindle Edition. 1:137).

society, a given portion of human labour is, in accordance with the varying demand, at one time supplied in the form of tailoring, at another in the form of weaving. This change may possibly not take place without friction, but take place it must. (Capital Vol 1, page 12 of the Marxist Internet Archive pdf file)

In this formulation - which Heinrich ignores - labour is abstract as part of the pool of human labour available to society. Workers can change occupation, either from day to day, or at different points in their life time. Insofar as they can potentially move from one activity to another their ability to work is abstract. This is most obvious with an unemployed person. They have an abstract ability to work in a variety of different jobs, until they get a job, this abstract ability to work does not take a concrete form.

Go back to the quote from Marx's letter to Kugelmann where he says "It is self-evident that this necessity of the distribution of social labour in specific proportions is certainly not abolished by the specific form of social production; it can only change its form of manifestation." What is the social labour that is being distributed?

Clearly it is abstract labour. It is only after social labour has been distributed into different activities that it takes on a concrete form.

So abstract labour is the abstract expenditure of human physiological effort and society has only a certain amount of this effort available to it which can be expended in different concrete forms.

This concept is indeed 'naturalistic' and 'a-historical'. It is naturalistic in that it depends on our adaptability as a species, our ability to turn our hand to any task. It is a-historical in that any society with a division of labour has abstract labour. Back to the letter to Kugelmann : "It is self-evident that this necessity of the distribution of social labour in specific proportions is certainly not abolished by the specific form of social production; it can only change its form of manifestation. Natural laws cannot be abolished at all. The only thing that can change, under historically differing conditions, is the form in which those laws assert themselves." One can scarcely have a more explicit assertion of the natural and a-historical basis of abstract labour than that.

Heinrich however presents a quite different interpretation of abstract labour one that he founds on his concept of real as opposed to mental abstractions.

Let us deal with abstract labor in more detail. Abstract labor is not visible, only a particular concrete labor is visible, just as the concept of "tree" isn't visible: I'm only capable of perceiving a concrete botanical plant. As with the term "tree," abstract labor is an abstraction, but a completely different kind of abstraction. Normally, abstractions are constituted in human thought. We refer to the commonalities among individual examples and then establish an abstract category, such as "tree." But in the case of abstract labor, we are not dealing with such a "mental abstraction" but with a "real abstraction," by which we mean an abstraction that is carried out in

the actual behavior of humans, regardless of whether they are aware of it⁵.

Heinrich here shows a rather archaic understanding of abstraction in biology. Biology is well aware of the difference between conventional and real abstract categories. Taxonomy attempts to discover the real abstract categories into which organisms are organised. Let us consider plant categories. Initially the gymnosperms and angiosperms were categorised just on the basis of a common traits in seed morphology. Subsequently after the development of evolutionary theory and genetics it came to be realised that these are actually real categories based on common descent and shared genes.

According to Heinrich abstract labour is a real abstraction. That is not a problem, if we take the physiological approach to abstract labour. The expenditure of human physiological energy is real. We can measure it by monitoring a person's oxygen consumption whilst they perform different tasks. Nor is the insistence on real abstraction a problem if we take Marx's other explanation of abstract labour - that abstract labour is a property of the division of labour, since real people do move between concrete jobs. A person's ability to change jobs is not a mere mental abstraction.

But for Heinrich the 'real abstraction' is what occurs when commodities are exchanged.

it is exchange, that consummates the abstraction that underlies abstract labor (independent of whether the people engaged in exchange are aware of this abstraction). But then abstract labor cannot be measured in terms of hours of labor: every hour of labor measured by a clock is an hour of a particular concrete act of labor, expended by a particular individual, regardless of whether the product is exchanged. Abstract labor, on the other hand, cannot be "expended" at all. Abstract labor is a relation of social validation (Geltungsverhältnis) that is constituted in exchange.⁶

What we have here is a set of rather weak arguments that lead up to his real purpose of reinstalling a theory of supply and demand as the basis of value.

Abstract labour can not be measured in hours?

Well what do management tools like timesheets and time and motion studies do?

They measure the amount of time required to perform a task. Take an average across enough workers and you get a measure of the socially necessary labour required to do that task. It becomes abstract as soon as you add together

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Heinrich, Michael; Locascio, Alex (2012-06-01). *An Introduction to the Three Volumes of Karl Marx's Capital* (Kindle Locations 730-735). NYU Press. Kindle Edition.

⁶ Heinrich, Michael; Locascio, Alex (2012-06-01). *An Introduction to the Three Volumes of Karl Marx's Capital* (Kindle Locations 749-753). NYU Press. Kindle Edition

the time required to do several different tasks in order to get an estimate of the labour required for an entire project. The fact that the different labour times that you add together were all different concrete activities is no more a problem than other forms of measurement. If you weigh things on a scale you are always measuring weights of concrete things, flour, sugar etc. But you can add these together and get a weight in the abstract of a whole load that you are putting into a truck for example.

Of course abstract labour can be expended. If one concluded that abstract labour can not be expended, you would have to conclude the same about what electrical energy?

Electrical energy is always expended doing something concrete: turning a motor, heating an oven, providing light, but that does not make electrical energy in the abstract, measured in kilowatt hours, any less real. Measure current at your meter and you abstract from the concrete tasks the electricity performs

Yes human abstract labour is always expended doing something concrete, but measure it at the entrance, count the people going into a workplace and you measure the labour in the abstract used by that workplace.

But this all leads up to the grand idea of value form theory: that abstract social labour is constituted by the act of exchange.

In exchange, the concrete acts of expended labor count as a particular quantum of value-constituting abstract labor, or are valid as a specific quantum of abstract labor,⁷

. Heinrich is opposed to the idea that Marx supported the labour theory of value and holds that instead he had a monetary theory of value. Heinrich's interpretation of socially necessary labour time is that:

1. Labour must be technically necessary: ie, take place under average technical conditions that neither over or under-use labour.
2. Labour must be socially necessary in the sense that there must be sufficient monetary demand for the total output to be sold.

Only labor-time expended under the average existing conditions of production as well as for the satisfaction of monetary social demand constitutes value. To what extent the privately expended labor was actually necessary to satisfy demand depends on the one hand upon the amount of this demand and on the other hand upon the volume of production of other producers—both of which first become apparent in exchange⁸.

This is in a sense a pun upon two meanings of the word necessary, and it is unfortunately a pun that Marx himself used at a few points. But at other

⁷ Heinrich, Michael; Locascio, Alex (2012-06-01). An Introduction to the Three Volumes of Karl Marx's Capital (Kindle Locations 753-755). NYU Press. Kindle Edition

⁸ Heinrich, Michael; Locascio, Alex (2012-06-01). An Introduction to the Three Volumes of Karl Marx's Capital (Kindle Locations 768-771). NYU Press. Kindle Edition.

places Marx talks of commodities selling above or below their value - something that would be meaningless if value was constituted in the process of exchange. More seriously, if one puns like this, one removes from one voids the theory of value of any scientific status. Let us look at both of these in turn.

Marx discusses whether prices will correspond or not to values and introduces the idea of market-value as distinct from individual value:

For prices at which commodities are exchanged to approximately correspond to their values, nothing more is necessary than 1) for the exchange of the various commodities to cease being purely accidental or only occasional; 2) so far as direct exchange of commodities is concerned, for these commodities to be produced on both sides in approximately sufficient quantities to meet mutual requirements, something learned from mutual experience in trading and therefore a natural outgrowth of continued trading; and 3) so far as selling is concerned, for no natural or artificial monopoly to enable either of the contracting sides to sell commodities above their value or to compel them to undersell. By accidental monopoly we mean a monopoly which a buyer or seller acquires through an accidental state of supply and demand.

The assumption that the commodities of the various spheres of production are sold at their value merely implies, of course, that their value is the centre of gravity around which their prices fluctuate, and their continual rises and drops tend to equalise. There is also the market-value — of which later — to be distinguished from the individual value of particular commodities produced by different producers. The individual value of some of these commodities will be below their market-value (that is, less labour time is required for their production than expressed is the market value) while that of others will exceed the market-value. On the one hand, market-value is to be viewed as the average value of commodities produced in a single sphere, and, on the other, as the individual value of the commodities produced under average conditions of their respective sphere and forming the bulk of the products of that sphere. .(Karl Marx, Capital vol III, page 128-129 Marxist Internet Archive pdf file).

Here he is defining market value in terms of Heinrich's first condition, but he distinguishes prices from values and says that value are the center of gravity around which prices fluctuate. This is incompatible with the idea that monetary demand itself is constitutive of value.

Nothing is easier than to realise the inconsistencies of demand and supply, and the resulting deviation of market-prices from market-values. The real difficulty consists in determining what is meant by the equation of supply and demand.

Supply and demand coincide when their mutual proportions are such that the mass of commodities of a definite line of production can be sold at their market-value, neither above nor below it. That is the first thing we hear.

The second is this: If commodities are sold at their market-values, supply and demand coincide.

If supply equals demand, they cease to act, and for this very reason commodities are sold at their market-values. Whenever two forces operate equally in opposite directions, they balance one another, exert no outside influence, and any phenomena taking place in these circumstances must be explained by causes other than the effect of these two forces. If supply and demand balance one another, they cease to explain anything, do not affect market-values, and therefore leave us so much more in the dark about the reasons why the market-value is expressed in just this sum of money and no other.

On the one hand, the relation of demand and supply, therefore, only explains the deviations of market-prices from market-values. On the other, it explains the tendency to eliminate these deviations, i.e., to eliminate the effect of the relation of demand and supply. (Karl Marx, *Capital* vol III, page 135 Marxist Internet Archive pdf file).

You can readily find other passages where Marx talks about prices rising above or below their value⁹. What are we then to make of the short passage on which Heinrich rests his interpretation¹⁰?

There are two aspects of this,

1. A judgment as to what Marx himself thought.
2. A judgment as to which view of value is more scientific.

The first is ultimately undecidable. To play devil's advocate, one could say that Volume 3 of *Capital* was not readied for publication by Marx and did not represent his considered opinion, whereas the quote in footnote 10 might be his last word on the subject, and he might have inwardly repudiated all he said about prices being above or below value in Volume 3. On the other hand, since he is so scathing of economists who seek to explain prices in terms of prices, rather than in terms of labour - something outside of the exchange process, this seems far fetched. In that case one has only to make a closer reading of the passage that Heinrich relies upon. Yes, if there is an excess supply of cloth then

⁹ For example in Chapter VI of Value Price and Profit.

¹⁰ suppose that every piece of linen in the market contains no more labour-time than is socially necessary. In spite of this, all these pieces taken as a whole, may have had superfluous labour-time spent upon them. If the market cannot stomach the whole quantity at the normal price of 2 shillings a yard, this proves that too great a portion of the total labour of the community has been expended in the form of weaving. The effect is the same as if each individual weaver had expended more labour-time upon his particular product than is socially necessary. (*Capital* I, page 72 Marxist Internet Archive pdf file).

the *effect* is the same as if each individual weaver had spent more labour time than was socially necessary. The effect is that each weaver sees a price that is less than the labour he expended. But this effect is quite compatible with the notion of prices falling below values that Marx uses elsewhere in his writing. It does not require a redefinition, or 'new reading' of value itself.

On the other hand there is no doubt that were we to accept Heinrich's reading we would have to abandon any claim that Marxian analysis of value was scientific. Science rests on the testability of its propositions and has to be wary of hypothesising causal entities which are in principle unmeasurable. If we say with Heinrich that the labour time that creates value can not be independently measured, can only be inferred from the price at which things sell, then you no longer have a testable theory. There is nothing to distinguish it scientifically from a theory that says that it is electricity that is the source of value, but not the common vulgar electricity measured by meters, instead value is determined by *social electricity*. And how do we measure how much social electricity a commodity contains?

Simple! We just look at its price and divide through by the Monetary Equivalent of Electricity.

Heinrich's theory of value is operationally indistinguishable from a social electricity theory, or from any number of 'New Age' theories. Consider the following advocacy of complementary medicine:

At the root of most holistic therapies lies the belief that all life is animated by a subtle force. We call this the Life Force. You either believe it or you do not. It cannot exactly be proved at the moment and the belief is not in accord with the yardsticks that we call 'scientific'. The belief is a little akin to the belief in God or in spirits or ghosts, and yet at the same time it is not, because the Life Force is by no means so remote from us. It is not necessarily difficult for an agnostic to accept the Life Force. The writer was once asked for a definition of the Life Force and wrote:

"The Life Force is that non-material, non-physical force that animates all life forms and distinguishes them from non-living matter. It is seen as a determining Force, not as a mere accompaniment to the phenomenon of Life. That is, it determines whether Life can exist or not. It determines the physical form that a life form takes: by its quality and its strength it determines the health, vigour and vitality of the life form. Hence it determines our freedom from, or our susceptibility to illnesses, and our general ability to come through and to recover from Life's stresses and traumas."

I do not want to embarrass the University from whose prospectus this came, but I think any Marxist is likely to be dismissive of such stuff. But ask yourself, what is the difference between the immaterial, unmeasurable 'abstract labour' of Heinrich and the 'life force' of holistic therapists?

If we stick to the conventional interpretation of Marx's theory of value we have something which is not only scientifically testable, but has been scientifically tested and found correct[3].

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